
XIV. *An Account of several Plants, recently discovered in Scotland by Mr. George Don, A.L.S., not mentioned in the Flora Britannica nor English Botany. By James Edward Smith, M.D. F.R.S. P.L.S.*

Read Nov. 21, and Dec. 5, 1809.

NOTWITHSTANDING the numerous additions to the British Flora, owing to the labour and acuteness of various observers, especially of Mr. Dickson, within the last 20 years, new discoveries, of the most interesting nature, are continually rewarding the zeal of new votaries to botany. I need only advert to the *Buxbaumia aphylla*, the abundance of new Lichens, *Fuci* and *Confervæ*, and the numerous *Salices*, which are amongst our more recent acquisitions, in proof of my assertion.

The richest harvest we have for a long time had, was communicated to me in the course of last summer by Mr. George Don of Forfar, whose scientific merits and eminent zeal are sufficiently known to the Linnean Society. I have chosen a part of these treasures for the materials of my earliest tribute to the Society, at its first meeting for this season, after the long vacation. The plants shall be enumerated in systematic order, with such remarks as I may think useful or amusing to British botanists, accompanied by characters and descriptions of such species as, from their novelty or obscurity, may require that sort of illustration.

1. *AIRA levigata**,

foliis planis; vaginis lævissimis, paniculâ coarctatâ, petalis aristatis basi villosis, rachis glabrâ brevissimâ.

Found on the high mountains of Clova in Angusshire, as well as at the sea-side near Dundee. In the former situation it is viviparous; in the latter not so. This grass appears to have been overlooked as a viviparous alpine variety of *Aira cæspitosa*. At least, so Linnæus, who received it from Lapland by means of some one of his travelling pupils, considered it; and probably it is the supposed variety, mentioned on the authority of the Rev. Hugh Davies, in the *Flora Britannica*. Mr. Don, however, justly remarks, that it differs from the *cæspitosa* in never being above a foot, or foot and half, high, even when cultivated in a rich moist soil; as well as in the great smoothness of the herbage when drawn through the hand. For, though the edges of the leaves are rough, their sheaths and backs are remarkably smooth. My acute correspondent thought he had ascertained a further difference, in the absence of the woolliness at the base of the flowers. This, however, I find not exactly the case; but the remark has led to the detection of a curious specific character in those parts. This consists in the extreme shortness, and perfect smoothness or nakedness, of the little partial stalk which elevates one floret, while the very base of each floret is bearded. In *A. cæspitosa* the partial stalk itself is hairy all over, and of a much greater length than in our *levigata*. Mr. Don informs me that the latter flowers a month earlier than *cæspitosa*. The root is fibrous and perennial.

The examination of this grass in its viviparous state, teaches us one mode in which that phænomenon takes place, and which

* *Engl. Bot. t. 2102.*

is perhaps the only mode with respect to grasses. This is by an absolute transmutation, more or less complete, of the glumes of the corolla into leaves. That such is the case, is evident, not only from the change being mostly incomplete, part of the glume retaining its natural state, but also from the awn terminating the newly-formed leaf. Indeed it often seems as if the lower part only of the awn itself had become leaf, the glume which bears it remaining unchanged. The gay petals of a tulip often become in part or entirely leaves. Why may not this happen to a grass? It seems that the organs of impregnation are starved and obliterated in such viviparous florets of this *Aira*, and not as some have supposed concerning other alpine viviparous grasses, that those parts are themselves transformed into a *gemma*, or leaf-bud; still less is the leafy appearance caused by the seeds vegetating in their husks, as Lightfoot thought of *Poa alpina*, and perhaps *Festuca vivipara*. It is possible indeed that the stamens, and even pistil, of all such grasses may be capable of change into leaves, as well as the corolla, though I have not found it so in this *Aira*.

2. *AVENA alpina**,

paniculâ erectâ subsimplici, calycibus subquinquefloris, receptaculis apice barbatis, foliis serrulatis nudis; vaginis scabris.

Discovered in 1807, on rocks upon the summits of the highest mountains of Clova, Angusshire. It is perennial, flowering in June.

This is a very fine species of *Avena*, and, as far as I can discover, perfectly new. I was inclined to refer it to *pubescens*, with which it most agrees in general aspect, but is larger in every part, and

**Avena planiculmis*. *Engl. Bot. t.* 2141, and as I presume of Schrader's *Fl. Germ. v.* 1. 381. *t.* 6. *f.* 2; but Mr. G. Don thinks otherwise, and denies the flatness of the stem in his plant.

Mr. Don has indicated the following differences, which I find to hold good. The roots form a compact tuft, and are not at all inclined to creep. The leaves are never clothed with soft hairs, nor are their edges even, as in *pubescens*, but they are finely serrated, so that the two species are distinguishable, even in the dark, by the touch. In this last particular the leaves agree with *pratensis*, but differ from that in their rough and greatly elongated sheaths. The flowers differ from both those species, not only in their much greater size, but in their partial stalk, or *rachis*, the hairiness of which I observe to be crowded up into a very dense tuft, towards the base of each floret, not dispersed over the whole *rachis*.

This species bears the same relationship to *Avena pubescens*, that my *A. caryophyllea*, *Fl. Græc. t. 89*, does to *pratensis*, being larger, with a greater number of florets in each calyx. I wish however that the *caryophyllea* might prove as permanently distinct; upon which subject I shall take this opportunity of making some observations. That was one of the few Greek grasses, drawn by Mr. Ferdinand Bauer, of which I could find no specimens in Dr. Sibthorp's herbarium. I was therefore obliged to take their specific characters from the drawings; and I did so with confidence, having had such frequent experience of the fidelity of this excellent artist. The *rachis* of this *Avena* being delineated quite smooth, and that part having been resorted to by Linnæus in this genus for his specific differences, I seized upon it, in conjunction with the greater number of florets, to establish a specific character. But I have lately discovered specimens of this grass, along with most, if not all, of the others of the *Flora Græca* that were in the same predicament, quite out of their places, confounded amongst a heap of rubbish, which I had supposed not to belong to the Greek herbarium at all. Thus
then

then I am enabled to have recourse to Nature herself; and I find the *rachis* is actually hairy, exactly in the peculiar manner of that of *A. pratensis*, the greater number of florets, being about double, constituting the only distinctive character of the *caryophyllæa*; for its leaves are rough-edged, and scarcely less involute than those of *pratensis*.

Such an occasional inaccuracy, in a science where such multiplied observations are necessary, can by no means detract from the reputation of Mr. Bauer, or any other artist. His original discoveries, and frequent improvements upon other observers, place him far out of the reach of any depreciation. The same may justly be said of the indefatigable Dr. Sibthorp, under whose inspection the drawing was made. Truth however renders my notice of the mistake indispensable.

3. *ARUNDO neglecta**,

calycibus unifloris corollam æquantibus, paniculâ erectâ diffusâ, floribus sparsis erectis aristatis, stipulâ brevissimâ.

A. neglecta. Ehrhart *Calamariæ* n. 118.

Discovered in June 1807, in a marsh called the White Mire, one mile from Forfar. Mr. Don never noticed it any where else, nor have I ever before seen any other specimens than the Upsal one in Ehrhart's *Calamariæ*; another sent by Dr. Swartz from Sweden, named "*A. stricta* of Timm," but not to be found in the *Flora Megalopolitana*; and a third in the Linnæan herbarium, laid into *Agrostis*, without a name, but with a Swedish inscription, signifying that "it was found by Solander on the Lapland alps, in Westbothland and at Ljumkil, and is very different from

* *Arundo stricta.* Engl. Bot. t. 2160. Schrad. Germ. v. 1. 215. t. 4. f. 5.

Agrostis arundinacea in its flowers, not to mention the smallness of its leaves.”

In fact, this plant is next akin to *Agrostis arundinacea*, and like that is surely an *Arundo*, according to Linnæus's original determination in the *Flora Lapponica*. They both belong indeed to the genus which some have separated from *Arundo*, by the bad name of *Calamagrostis*, distinguished by having only 1 floret in each calyx, as do likewise *Arundo Calamagrostis* and *Agrostis Calamagrostis* of Linnæus. It seems to me that they may all very naturally be referred to *Arundo*.

Arundo neglecta is by far the smallest British species of its genus, being scarcely 2 feet high. It has something of the habit of *A. Calamagrostis*, but differs from that, as well as from all the species just mentioned, in having the glumes of the calyx simply acute, without any elongated point. The corolla moreover is as long as the calyx; its glumes abrupt and jagged, the larger bearing a short dorsal awn, scarcely projecting beyond the calyx, and not, like that of *Agrostis arundinacea*, twice as long. The root is creeping. Stem simple, with 2 joints, smooth, as are also the sheaths. The leaves are narrow, acute, rough on the upper surface and edge. Stipula very short, abrupt and entire. Panicle of a purplish or bronze-coloured brown.

It must be confessed that the first grass, described in the present paper, comes very near these just referred to *Arundo*, in the generic character founded on the hairs at the base of the corolla. But the hairs of *Aira levigata* form a tuft at the base of the outer glume only, and, from the analogy of *Aira caspitosa*, should seem rather to belong to the *rachis* than to the glume itself, however closely approximated to the latter. They do not, as in *Arundo*, grow out of, and entirely encompass, both glumes of the corolla.

4. *CHEEROPHYLLUM aureum**,

caule tumidiusculo anguloso subpiloso, foliolis pinnatifidis acutis incisis, seminibus coloratis costatis.

Ch. aureum. *Linn. Sp. Pl. ed. 2.* 370; nec *Mant.* 356. *Jacq. Austr. v. 1.* 40. *t.* 64.

Cerefolium n. 749. *Hall. Hist. v. 1.* 328.

Myrrhis perennis alba minor, foliis hirsutis, semine aureo. *Rupp. Jen. ed. Hall.* 282. *t.* 5.

Found between Arbroath and Montrose, in the borders of fields; also at Corstorphine near Edinburgh; flowering in June. This species would scarcely be recognised by the specific name, which alludes to a very slight yellowness, or rather tawinness, in the ripe seeds. Linnæus originally confounded it with *Cherophyllum hirsutum*, from which it differs, even generically according to Haller, in not having furrowed but ribbed seeds. This difference escapes my powers of observation. More certain ones are to be found in the short soft deflexed pubescence, rarely entirely wanting, on the stem of our plant, with a few coarse hairs occasionally superadded, like those of *hirsutum*, but more deflexed: in the narrow, pinnatifid, sharp and elongated leaflets: and in the less dilated edges of the common footstalks, whose very base however, in the lower leaves, is remarkably annular and abrupt. The flowers are cream-coloured, with a reddish tinge occasionally. There are often one or two leaves of a general involucre: the partial one consists of several ovate, pointed, fringed whitish leaflets. Seeds longish, with 3 elevated obtuse palish ribs to each. Styles permanent, divaricated.

The description under this name in the *Mantissa altera* was

* *Engl. Bot. t.* 2103.

made from an imperfect specimen of *Cherophyllum temulentum*, accidentally mistaken for the *aureum*, from which it widely differs.

5. *SAXIFRAGA pedatifida*,

foliis radicalibus reniformibus pedatifido-septemlobis; caulinis palmatis linearibusque, caule subnudo ramoso, petalis lineari-
obovatis.

S. pedatifida. Ehrhart Exsicc. n. 15.

S. quinquefida. Donn Cant. ed. 5. 107.

Found (by Mr. George Don) on the mountains of Clova, Angusshire. The same was sent to the Cambridge garden, some years since, from the Highlands, by the late Mr. J. Mackay. It comes nearest to *S. geranioides*, with which the Swiss botanists seem to have confounded it, but differs in the pedate form of the radical leaves, which are divided almost to the base, their lobes narrower and blunter than in that species. The petals too are much narrower, and the calyx-teeth less elongated after flowering. The true *S. petræa*, Jacq. Ic. Rar. t. 81, a plant known to very few botanists, has leaves divided in a somewhat similar manner, but the stem is much more leafy, and the petals emarginate, as in Pona's and Jacquin's figures.

6. *SAXIFRAGA elongella*,

foliis aristatis trifidis quinquefidisve: basi elongatis; superioribus linearibus indivisis, pedunculis longissimis nudis.

S. elongella. Donn Cant. ed. 5. 107; ex nomine.

Gathered on a rock by a river called Lintrathen, a mile and half north of Airly castle, Angusshire. The late Mr. J. Mackay sent it formerly to Cambridge; at least if I am right in the synonym,

nonym, which cannot at this season be determined. Mr. George Don has favoured me with wild as well as cultivated specimens. The stems creep to some extent, throwing out numerous short leafy branches. Some of the leaves are linear and undivided; others, from a long narrow base, divide suddenly into 3 equal oblong lobes, the 2 outermost of which have sometimes a short lateral lobe; all are more or less fringed with soft hairs, and tipped with a small bristle. Neither the lobed nor the undivided leaves seem exclusively appropriated to any particular part of the plant, but those on the upper part of the flowering branches are always undivided. Such branches are erect, bearing seldom more than one large white flower, on a remarkable naked stalk, usually two inches long, erect and slightly glandular. In one luxuriant cultivated specimen there are five flowers on one branch. The germen is inferior. Calyx-teeth ovate. Petals obovate, entire, with three slender ribs separating a little above the base.

7. *SAXIFRAGA platypetala*,

foliis aristatis trifidis quinquefidisve, stolonibus procumbentibus, caule subfolioso, petalis obovato-orbiculatis.

Found on the mountains of Clova in Angusshire. We have the same gathered by Mr. D. Turner upon Snowdon. It has the habit of *S. hypnoides*; but the leaves are almost universally divided into three, sometimes five, lobes, a few on the upper part of the flowering stem only being undivided. The petals moreover are very different, being twice as broad, and almost orbicular, with three ribs, of which the central one is often deeply divided, while the others sometimes throw off numerous lateral branches towards the edge of the petal.

8. *LYCHNIS alpina*,

glabra, petalis bifidis, floribus corymbosis, foliis lineari-lanceolatis.

L. alpina. *Linn. Sp. Pl.* 626. *Fl. Dan. t.* 65. *Willd. Sp. Pl.* v. 2. 809.

Silene lapponica alpina, facie *viscariaë.* *Linn. Fl. Lapp. n.* 185.

On rocks near the summit of Clova in Angusshire, but very rare; first observed by Mr. Don in 1795.

This is a very pretty species, found in Switzerland, as well as on the Lapland mountains, so that we cannot wonder at its being a native of Scotland also, though never noticed before. It resembles *Lychnis Viscaria*, but is smaller and not viscid.

Some strange confusion has crept into the descriptions of this plant. Linnæus in his *Flora Lapponica* makes it a *Silene*, saying the styles are three. In the *Species Plantarum* it is properly referred to *Lychnis*, without mention of any anomaly in the number of the styles, which therefore must be understood to be five; but in the *Systema Vegetabilium* they are said to be four, and the petals are there described as destitute of a crown. Now in the original manuscript of Linnæus's Lapland Tour, where he first describes the plant in question, the styles are asserted to be five, and the petals to have a crown, formed of two teeth upon each petal, their border moreover being cloven half way down. Haller, in *Act. Helvet. v.* 6. 13. n. 46, says the petals are "plaited at their origin, with tumours but without auricles," and that "the styles are five." These two last accounts, taken from nature, may safely be relied on, and they agree with what I am able to discover in dried specimens, where I find the petals as distinctly crowned as in any *Lychnis* or *Silene* whatever. Willdenow is reprehensible for copying the erroneous specific character from the *Systema Vegetabilium* as if it were taken not from Linnæus but from Oeder in

in the *Flora Danica*, who says nothing at all like it. It is remarkable however that Haller, in the first edition of his *Flora*, describes only three styles. Could this be copied from Linnæus, whose original error seems to have arisen from the obscurity of a figure in his own manuscript? It is, after all, possible that the styles may vary in number from three to five.

9. *POTENTILLA tridentata*,

foliis ternatis cuneiformibus: suprâ glabris: subtùs pilosis: apice trifidis.

P. tridentata. *Ait. H. Kew. v. 2. 216. t. 9. Willd. Sp. Pl. v. 2. 1110.*

Discovered last summer on a mountain called *Werron*, and on some others to the westward, all in Angusshire. This, in Mr. Don's opinion, equals any of its genus, if it does not surpass them all, in point of beauty. It is not honoured with much distinction in our gardens, though sometimes seen there. The flowers are white. The plant in *Fl. Danica, t. 799, P. retusa Retz. Prodr. 123*, cited by Willdenow, has hairy leaves and yellow flowers, and must certainly be a different species.

10. *RANUNCULUS alpestris*,

foliis glaberrimis: radicalibus subeordatis obtusis tripartitis lobatis; caulino lanceolato integerrimo, caule subunifloro.

R. alpestris. *Linn. Sp. Pl. 778. Jacq. Austr. t. 110.*

By the sides of little rills, and in other moist places, about two or three rocks on the mountain of Clova, Angusshire, very rare, and but seldom flowering. Mr. Don suggests that "its herbage, bearing a great resemblance to several of its kindred, may easily have been overlooked, but when in blossom it is truly a splendid plant." The petals are inversely heartshaped, of a brilliant white.

Calyx smooth, bordered with white. The stem-leaf is often ternate. The radical ones, as Linnæus remarks, greatly resemble those of *R. aquatilis* that float on the surface, and in watery places may be mistaken for them.

11. *COCHLEARIA groenlandica,*

foliis reniformibus carnosis integerrimis, siliculis globosis.

C. groenlandica. *Linn. Sp. Pl.* 904.

C. minima, erecta et repens, insulæ Aalholmianæ. *Willius in Bartholin. Act. Hafniæ, v. 3.* 143. *f.* 144.

Found on the mountains of Clova, Angusshire, and Loch-negare, in August 1807. Mr. Don's specimen agrees with the authentic one in the Linnæan herbarium, and with Bartholin's two figures, especially with that which is branched. The radical leaves are extremely fleshy, convex beneath, about the size of a split pea, entire, and grow on long stalks. One or two of the stem-leaves are nearly sessile, more oblong, and approach towards the shape of *C. anglica*, having occasionally a tooth at each side of their elongated base. The pouch is globose, with a short style, as in *C. officinalis*, of which this may possibly be a variety, but it is not the same with the *groenlandica* of Withering. It is remarkable that the plant published by Bartholin is said to flower on the sea-shore in April, and to disappear entirely by the month of July; whereas Mr. Don gathered his in full bloom in August. May the alpine situation of the latter cause such a difference? The flowers are large, tinged with purple.

12. *CREPIS pulchra,*

foliis pubescentibus dentatis; caulinis subsagittatis, caule paniculato corymboso, calycibus pyramidatis glabris.

C. pulchra. *Linn. Sp. Pl.* 1134.

Hieracium

Hieracium pulchrum. *Bauh. Hist.* v. 2. 1025.

H. montanum alterum leptomacrocaulon. *Column. Ecphr.* 248. t. 249.

Lapsana chondrilloides. *Linn. Sp. Pl. ed.* 1. 812.

Found in 1796 amongst crumbling rocks on the hill of Turin, to the east of Forfar.

The plant is not at present known in our gardens, though said to have been cultivated at Chelsea in Rand's time; see *Hort. Kew*. Mr Don rightly determined it to be a *Crepis*, and the Linnæan specimen decides its species. The flowers are small and inconspicuous, of a pale yellow. Each calyx-leaf acquires a strong prominent smooth rib as the seed ripens.

This plant appears in two places in the 1st edition of *Spec. Plant.* but in the 2d the *Lapsana* is made a variety β , which is still incorrect, for it is precisely one and the same in every respect.

My worthy friend Dr. Afzelius once told me an amusing anecdote to account for the specific name of this *Crepis*. The Queen of Sweden, Louisa Ulrica, celebrated as the great patroness of Linnæus, used frequently, in her visits to the Upsal garden, to jest with him for his valuing many mean or ill-looking plants, in which she could see nothing to admire. Coming to this little *Crepis*, which is far from ornamental, in one of her walks with the Professor, the Queen exclaimed, "This I suppose you call a pretty plant!" Linnæus replied, "The plant has as yet not been called any thing; but Your Majesty has given it a name which shall certainly be adopted." He therefore called it *Crepis pulchra*. The old synonym of Bauhin, *Hieracium pulchrum*, may seem to invalidate this story, but will not be found to do so in reality; as, though it might afford the precise name, the idea might nevertheless be suggested to Linnæus by the Queen.

13. ERIGERON *uniflorum*,

caulibus subunifloris, calyce villosa, radio erecto subtubuloso.

E. uniflorum. *Linn. Sp. Pl.* 1211. *Fl. Lapp. ed. 2.* 250. *t. 9. f. 3.*

Grows on Ben Lawers, and on rocks by the side of the river Almond, near Lindoch, seven miles from Perth. Mr. Don remarks that the chief distinction between this and the *alpinum*, *Engl. Bot. t.* 464, is, that in *uniflorum* the florets of the radius are more slender, and seem to be tubular, always upright, and never becoming patent as in *alpinum*. They are also of a deeper colour, and the disk is constantly of a dark purple approaching to black, instead of a light yellow. To this we may add, that the calyx is always much more villose, forming, as Linnæus says, a hispid globe before it opens. The radius seems to be often white, and hence he compares it to a daisy. Its erect position remains when dry, and a liberty appears to have been taken by the draughtsman of the *Flora Laponica*, who certainly saw only a dried specimen, of making it spread almost horizontally.

There can in future be no difficulty in distinguishing these two species. Each of them is liable to bear several flowers on a stem when cultivated. Both grow in Switzerland as well as in Scotland; but we have seen only the *uniflorum* from Lapland, though it appears by *Fl. Danica*, *t.* 292, that the *alpinum* is found on the mountains of Norway and Iceland: and indeed Linnæus in his Lapland Tour describes his plant with a yellow disk, and sketches the radius in a rather spreading posture; so that, though he preserved the *uniflorum* only, he might possibly gather both, and at that time confound them.

Norwich, Nov. 6—30, 1809.